CLAIMS

What is claimed is:

1. A process of roll forming a tubular metallic body for a fluid connector, comprising the steps of:

i. affixing a tubular metallic body of substantially constant diameter in a roll forming machine;

ii. positioning a series of freely rotatable independent tools in a circumferential pattern surrounding said tubular body;

iii. together rotating said series of tools within a predetermined velocity range;

iv. applying minimal radial contact between said series of tools and said tubular body;

v. forming at least one annular radial groove in said tubular body;

vi. smoothing the outer surface of said tubular body;

vii. decreasing the outside diameter of a portion of said tubular body for a predetermined distance along its periphery at a constant, uniform rate; and

viii. rounding a proximate end of the decreasing-diameter portion of said tubular body.

2. The process as in claim 1 further including:

during the forming step, moving material to said proximate end and forming a rounded, rolled-over nipple nose thereat.

3. The process as in claim 1 wherein said rotational velocity of said series of tools is in the range of 300-800 rpm.

4. The process as in claim 1 wherein said series of tools is comprised of three essentially equally spaced parallel rollers each having at least one protrusion extending from its outer peripheral surface and said minimal contact occurs substantially simultaneously between each of said at least one protrusion and said tubular body.

5. The process as in claim 1 wherein said decreasing diameter portion extends from one of said at least one annular groove toward said proximate end.

6. The process as in claim 1 wherein said metallic tubular body is fabricated from a 5000 series aluminum alloy.

7. The process as in claim 5 wherein said decreasing diameter portion has an about 2° pitch.

8. The process as in claim 5 wherein said at least one annular groove includes two axially-spaced, parallel, substantially similar grooves.

9 The process as in claim 1 further including the step of smoothing said tubular body excluding said grooves, said decreasing diameter portion and said rounded proximate end.